

menium altit. circiter 0·1 millim. (statu humido), in *L. sarcogynoides* altit. fere 0·09 millim., in *L. lapicida* var. *declinata* altit. solum 0·05 millim.

10. *Lecidea furvella*, Nyl.

Differt a subsimili *L. furvula* hypothecio atro, epithecio (et thalamio superne) cærulescente, sporis minoribus (long. 0·009–0·011, crass. 0·0045 millim.), &c.

Ad saxa micaceo-schistosa in Ben Lawers Scotiæ (Mr. I. Carroll).

In *L. furvula* hypothecium fuscum, epithecium nigricans; sporæ long. 0·012–0·017 millim., crass. 0·006–0·008 millim., thallus crassior et distinctius areolato-diffractus, &c.

XLVIII.—*List of Coleoptera received from Old Calabar, on the West Coast of Africa.* By ANDREW MURRAY, F.L.S.

[Continued from p. 180.]

## Trogositidæ.

## ALINDRIA, Er.

*Alindria alutacea*.

*A. elongata* valde affinis, magis opaca; elytris minus fortiter punctatis, interstitiis magis elevatis versus apicem quam versus basin.

Long. 7–9 lin., lat.  $2\frac{1}{2}$  lin.

Very similar to *A. elongata*, Guér.; more opaque and dull in texture; the head has a general slight depression in the middle, whereas in *A. elongata* the depression is somewhat angular and placed towards the back of the head. In *A. elongata* the costæ between the double row of punctures on the elytra are most developed towards the base, while in this species they are more raised towards the apex; the punctures, too, are not quite so deep. The insect is also not quite so cylindrical, being a little depressed on the back, and perhaps broader in proportion; but it is obviously the representative on the west coast of Africa of *A. elongata* on the east coast (Natal).

Two specimens received.

The geographical distribution of this genus is peculiar, viz. North America and Africa. There is a species also said to be from Cachemir, which I have not seen.

## MELAMBIA, Er.

*Melambia striata*, Oliv. Ent. ii. 19. p. 7.

A single specimen.

The geographical distribution of this genus is of a more usual character than the last, viz. Africa and the Malayan district.

GYMNOCHEILA, Erich.

*Gymnocheila squamosa*, Gray, Griff. Anim. Kingd. pl. 60. fig. 3.

(*G. vestita*, Dej. Cat. p. 339.)

This species, although figured by Gray in the above work, has, I believe, never been described. I therefore give its description here:—

Oblonga, modice convexa, nigro-fusca, squamis fuscis et albidis vel ochraceis dense variegata; antennis basi, palpis pedibusque ferrugineis, femoribus saturatoribus; prothorace lateribus dense sat fortiter punctato, medio spatio longitudinali confertim et irregulariter punctato, utrinque sublævi, lateribus parum ampliatis, pone medium latiore, angulis posticis obtusis; elytris punctato-striatis, striis decem ad humeros paullo deflexis.

Long.  $4\frac{1}{2}$ –6 lin., lat.  $1\frac{3}{4}$ –2 lin.

Head rounded, moderately convex, front sloping rapidly downwards, brownish black, clothed with brown scales of different degrees of darkness, coarsely punctate, with a longitudinal depression in the middle, and on each side of it, about a third of the distance from the vertex, is a distinct raised papilla, and a little behind, much less distinct, a sort of small oval depression or slight scar as it were, the margins of which are smooth; behind this, again, and at the inner angle of the eye, is a patch of darker scales looking like a tuft. Eyes moderate. Palpi rufo-ferruginous. Antennæ rather short, ferruginous, with the last three articles black, thick, and forming a club. Prothorax not quite twice so broad as long, broadly emarginate in front, the anterior angles very projecting, but rounded at the apex, sides somewhat unevenly and angularly rounded, widest a little behind the middle, posterior angles obtuse, the surface coarsely punctate, except a partially smooth space on each side of the middle, which forms a depressed longitudinal line irregularly and unequally thickly punctate; there are also a number of irregular depressions on the disk, arranged in something like disordered longitudinal rows, three on each side of the middle: it is covered with dull fuscous scales, except at the posterior angles and for about a third of its length in front of these angles, which third is covered with whitish scales, and forms an oblique oblong patch; the fuscous surface seems darker in the places which are depressed, owing doubtless to the scales being less rubbed off in these depressions. Scutellum short, rounded

at the apex, opaque. Elytra twice and a half the length of the thorax, and a little broader than it at the base, which is truncate; the shoulders very slightly prominent; basal exterior angles very nearly rectangular, but slightly obtuse and with the angle itself rounded; the sides nearly straight or slightly diverging, until behind the middle, when they gradually converge, terminating when united in a rounded pointed apex; moderately convex above, punctate-striate, the striæ ten in number, slightly deflexed near the shoulder and cut like rectangular grooves, well defined, and the punctures transverse and rectangular; covered with fuscous scales variegated with whitish, or ochreous opaque dull scales running down on each side of the suture, extending outwards in a somewhat triangular shape towards the base, and also less extensively behind the middle, and again still smaller near the apex, also with a whitish patch near each shoulder; the fuscous colour is darkest and most conspicuous where it joins the whiter variegation. The body below is flat, opaque, and covered with dull cinereous scales; the thorax is coarsely and rather sparsely punctate. The legs are fusco-ferruginous; the thighs darker, at least in the middle.

The female is said to have the eyes divided. I am not sure that the males can be distinguished from the females by any other superficial character: but if the character is a good one, then I have never seen any females; for all the specimens that I have examined, whether from Old Calabar or South Africa, have the eyes unseparated.

I presume it is rare at Old Calabar; for I have only received one or two examples. Its range seems to be extensive in Africa, specimens standing in collections from Guinea, the Cape, and Natal.

PELTIS, Kugel.

1. *Peltis crenata*.

Oblongo-ovata, depressa, brunnea, punctata, breviter subsetosa; elytris crenato-striatis.  
Long.  $2\frac{1}{2}$  lin., lat. 1 lin.

Oblong-ovate, flat, depressed, brown, coarsely punctate, with very short whitish setæ or hair-like scales irregularly dispersed on the thorax and in lines on the elytra. Head not extending beyond the emargination of the thorax, flat, with a transverse, somewhat curved depression in front, leaving a roundish eminence behind the clypeus. Thorax deeply emarginate, widest near the posterior angles, which are turned slightly in and rounded at the tip; sides sloping to the front; anterior angles projecting and rounded at the apex; base trisinate, surface

most deeply punctate towards the sides, which are slightly reflexed in front and a little turned down behind. Scutellum less deeply punctate than the thorax, rounded at the apex. Elytra flat on the disk, with the sides nearly vertical, crenate-striate, the crenations caused by apparently two rows of punctures, the punctures separated by transverse ridges; the striæ are seven or eight, and reach to the apex, but not to the sides, where they become a confused mass of general coarse punctuation, with a tendency here and there to linear arrangement; the interstices on the disk are subrugose; the margins are reflexed, and there is a large shallow depression on the sides behind the shoulders. The scales or hairs are whitish and not erect, nor are the sides ciliated. The underside is smoother than the upper, the legs shining, the palpi testaceo-ferruginous, and the tarsi paler than the general colour of the legs.

One specimen.

2. *Peltis ciliata*.

Oblongo-ovata, depressa, brunnea, punctata, setosa, lateribus ciliatis; elytris striato-punctatis.

Long.  $2\frac{1}{8}$  lin., lat. 1 lin.

Very similar to the preceding, but distinguished by the following characters:—It is of a darker brown and duller colour. The transverse line in front is straight, and separates a small ridge in front instead of a rounded prominence; the anterior angles of the thorax are slightly more prominent, and the posterior angles not so obtuse. But the chief distinction is, that the elytra are punctate-striate instead of crenate-striate, the striæ consisting of rows of punctures, each alternate row of which is stronger than the other, and all about equally distant from each other; the sides are more regularly punctate in rows, although so closely as to destroy the appearance of striæ. The whole surface is covered with stiff, short, erect, brownish bristles, a row running along each stria and one sticking out as a fringe all round the sides both of thorax and elytra.

I have only received one specimen of this; and it is possible that a series might show transition passages between this and the preceding species. It is easy to see how a little exaggeration of some of the characters might change the one into the other; but as at present advised, I keep them distinct.

These two come near in form to some undescribed Indian and Australian species.

BOTHRIDERES, Erich.

*Bothrideres spleniatus*.

Saturate vino-castaneus, leviter punctatus thorace splenio

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cuneato medio instructo; elytris sulcatis, sulcis punctatis; tibiis anticis et mediis externe dentatis.

Long.  $1\frac{3}{4}$  lin., lat.  $\frac{3}{4}$  lin.

Deep chestnut claret-coloured. Head and thorax finely, faintly, and sparingly punctate, the punctures elongate; the former hollowed longitudinally. Thorax wedge-shaped, truncate both before and behind, the anterior angles slightly projecting, the sides with three very slight angles or prominences, the most prominent not far from the posterior angle; the disk deeply excised longitudinally, with a narrow wedge-shaped patch inserted in the middle, the point of the wedge directed backwards. Scutellum small, ovate, projecting. Elytra sulcate, the sulci being rows of punctate striæ; three (or four, if we reckon the sutural line as one) alternate interstices on each side are a little more raised than those between them, the outermost the least so: shoulders somewhat prominent and paler than the rest of the body: sides turned down and in, and with the margin marked off by a fine stria. Underside finely, faintly, and sparingly punctate. Legs paler than the body; anterior tibiæ with three distinct teeth on the external side—one large one at the distal angle and two together about the middle; the middle tibiæ with two blunt teeth about the middle.

Two specimens, from the Rev. W. C. Thomson.

This is a well-marked species. The patch let in in the midst of the thorax is a distinct well-defined narrow wedge. The dentation on the tibiæ is another good distinguishing character. All the species seem to have more or less of a groove on the outer side of the tibiæ, apparently for the reception of the tarsi when at rest. In the European species this is scarcely observable. It goes no further than a slight broadening and roughening of its outer side. It is at the upper termination of this groove that the two middle teeth in this species occur. The only other species in which I have observed a tendency to this dentation is an undescribed Indian one (highly polished and with an oblong quadrangular patch on its thorax).

#### HECTARTHURUM, Newm.

##### 1. *Hectarthrum gigas*, Fab. Syst. El. ii. p. 92.

Fabricius's description is too meagre to allow us to be certain whether he had a species distinct from *curtipes* in his eye when he described this; all that we can be sure of is that it was either *curtipes* or something very near it. I think there are two species which answer to his description, and which are sufficiently close to be confounded—one broader and larger than the other, and it I consider to be the *gigas* of Fabricius.

Two or three specimens received.

2. *Hectarthrum curtipes*, Newm. Ent. Mag. v. 398, and Ann. Nat. Hist. ii. 392.

This is the species which may be confounded with *H. gigas*; but on the whole, I incline to think with Mr. Newman that it differs from it. It is always small and narrower in proportion. The markings and sculpture, however, cannot be distinguished.

3. *Hectarthrum quadrilineatum*, Smith, Brit. Mus. Cat. of Cucujidæ, p. 22.

Mr. Frederick Smith, of the British Museum, described this species from a specimen from Natal. The type is in the British Museum, and is a female. The species varies a good deal in size. I have a specimen only  $3\frac{1}{2}$  lines in length, and another upwards of 6 lines. The striæ on the elytra, when examined closely, show a series of faint punctures in the lines.

Several specimens received.

“Black, with two deep channels on the head originating at the basal angles of the clypeus, running upwards, meeting a little before the vertex; thence passing off at right angles, they continue, reaching the inner margins of the eyes, where, becoming narrower, they traverse the inner margins, and curve round, meeting the origin of the deep sulcation; the clypeus has a deep fossulet in the centre, the lateral margins of which are raised; and there is a sharp carina down the face, terminating in this deep fossulet. The thorax is one-third longer than broad. Each elytron has four striæ independent of the usual marginal stria, the sutural stria uniting with the marginal one; a second stria runs parallel to the sutural one, but becomes obsolete a little before the apex: a second pair of striæ run down the middle of the elytra, the inner one commencing a little below the shoulder; the outer stria commences at the humeral angle, and both become obsolete a little before the apex. The femora are red, the tibiæ and tarsi rufo-piceous. Long. 5 lin.”

4. *Hectarthrum Smithii*.

*H. quadrilineato* similis; dignoscitur thorace medio versus basin duabus striis parum obliquis brevibus instructo.

Long.  $3\frac{1}{2}$  lin., lat.  $\frac{3}{4}$  lin.

Like the smaller specimens of *H. quadrilineatum*; narrower; the head sculptured nearly as in it; but the central keel in front, which in it runs down the middle fossulet on the clypeus, is almost effaced. The thorax nearly as in it; but, besides the two faint lateral oblique lines, there are two deep, short, dorsal, slightly oblique lines near the base; they extend forwards about half the length of the thorax, and do not reach the base; they

are only slightly oblique, and the obliquity is outwards in front. The lines on the elytra are more deeply engraved.

This may be a sport of *H. quadrilineatum*; but the presence of the two deep dorsal lines on the thorax warrants one at least in regarding it as distinct until a greater series of specimens enables us to see whether there are any passages between the one and the other or not.

I have called it after my friend Mr. Frederick Smith. I have only seen one specimen.

. 5. *Hectarthrum simplex*.

*H. quadrilineato* affinis; elytris linea suturali et marginali apice conjunctis et lineis duabus medio.

Long.  $3\frac{1}{2}$ – $4\frac{1}{2}$  lin., lat.  $\frac{3}{4}$ –1 lin.

Similar to *H. quadrilineatum*; but it has not the line or stria on the elytra next the sutural stria; the sutural stria is further from the suture than in it, leaving a wider sutural space. It might be called *trilineatum*, if we were not to reckon the marginal stria, as *H. quadrilineatum* is only four-lined if we do not reckon the marginal stria; reckoning that stria, it is five-lined. Here there is first the sutural stria, next two close on the middle, and lastly the marginal stria out of sight round the corner.

The antennæ of the male are remarkably and gradually thickened in the middle—a character not peculiar to it, but present in other species.

[To be continued.]

XLIX.—*On the Temperature of Geological Periods, from indications derived from the observation of Fossil Plants.* By the Count GASTON DE SAPORTA.

[Concluded from p. 282.]

§ 2. *Examination of the Genera peculiar to the Northern Temperate Zone observed in the Ancient Floras.*

The genera to the investigation of which I now advance are for the most part those which we have still before our eyes. It is to them that our indigenous vegetation owes its character: they seem to be adapted to the conditions of our temperature; and consequently it would appear that they must have commenced at the period when this was definitively established. I shall show that this is not the case, and that, from causes which we can as yet only appreciate very imperfectly, their existence in the past ascends far beyond the time when the European climate became similar to what it is at present.